



*Your consulting pathologists*

PATHOLOGISTS · PATOLOE  
Drs Du Bulsson, Kramer, Swarf, Boucher Inc./Ing.



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## TISSUE TYPING & CYTOTOXIC ANTIBODY SCREENING



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**AMPATH National Laboratory Services**

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## TISSUE TYPING & CYTOTOXIC ANTIBODY SCREENING – PATIENT INFORMATION

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### WHAT IS TISSUE TYPING?

Finding a compatible donor for an organ or stem cell transplant involves comparing tissue types, called HLA (human leucocyte antigen) molecules between the potential donor and recipient. Tissue types are almost like a person's blood group, five different types of HLA molecules are tested for solid organ transplants; HLA-A, HLA-B, HLA-C, HLA-DR and HLA-DQ. A person will have two of these HLA molecules, one from their mother and one from their father. Each individual has their own unique tissue type.

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### WHY IS TISSUE TYPING PERFORMED?

To look for the best match between the recipient and the organ donor. When the patient and the donor have a match on tissue level, the risk is reduced for the patient's body to reject the "foreign" organ and to see the transplanted organ as "self".

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### WHAT TYPE OF SAMPLE IS REQUIRED?

Tissue typing can be performed on blood. The doctor will ask for two tubes for the donor and two tubes for the recipient. This test is usually only performed once, as a person's tissue type never changes.

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### WHAT IS CYTOTOXIC ANTIBODY SCREENING OR DONOR-SPECIFIC ANTIBODIES?

Antibodies are part of the immune system and are formed when the body is under attack. Usually this happens during an infection. However, antibodies can also be formed if the body recognizes something foreign, like a transplanted organ. These antibodies, called donor specific antibodies, are HLA antibodies which attack the transplanted tissue and are responsible for organ rejection. To prevent this from happening, medication to suppress the immune system is given after transplantation.

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### WHY IS CYTOTOXIC ANTIBODY SCREENING PERFORMED AND HOW OFTEN?

Human leukocyte antigen (HLA) antibodies usually develop in association with exposure to HLA molecules that are not your own, such as blood products, foreign tissue during transplantation or during pregnancy, but they can also develop spontaneously. They can be present in a recipient patient before transplant and can develop at any time after the transplant, therefore regular testing of recipient patients for HLA antibodies before and after the transplant is crucial to reduce the risk of organ transplant rejection. The treating doctor will decide how often this testing will be performed, based on the transplant program and the patient's condition.

### WHAT TYPE OF SAMPLE IS REQUIRED?

Only one tube of blood is needed.

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### HOW MUCH DO THESE TESTS COST?

These tests are highly specialized tests and are expensive. If there is any concern about the cost involved, we recommend that you enquire at the AMPATH depot about the estimated costs. For cytotoxic antibody screening an initial test is performed that only gives a yes or no answer (positive or negative). It is essential that a positive test be broken down during further testing to establish the specific antibodies involved. It cannot be predicted beforehand whether the screen test will be positive or negative and it is thus impossible to quote a final price for cytotoxic antibody screening. It is, however possible to give an estimate of the "best" and "worst" case scenario. Please note that fees may differ for patients with medical aid cover, as fees are negotiated individually with each medical aid.

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### HOW LONG DOES IT TAKE BEFORE RESULTS ARE AVAILABLE?

Two to three weeks. Please note that no testing can be performed without pre-approved medical aid authorisation or alternatively, cash payments.

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### WHERE CAN YOU FIND MORE INFORMATION OF THESE TESTS OR THE COSTS INVOLVED?

For more information concerning the tests, implications, costs and collection, you can contact AMPATH at 012 369 6100.

